CLAIMS

1. An arrangement for welding the ends of electrically conductive segment pairs, called conductive segments, of a winding of a rotating electrical machine formed by multiple conductive segments mounted in series and supported by a support body (1) so that the ends of each pair of conductive segments to be welded form, on an axial side of the support body (1), a chignon (3) in the form of a slip ring, in which the ends of the pairs of conductive segments to be welded are juxtaposed in a radial direction to the support body and are arranged on the outside of the support body (1) in the form of radial rows (R) that are offset circumferentially from each other; said welding arrangement has a flanging tool for the ends of the conductive segments to be welded, and this tool has means for the circumferential locking of these ends to be welded in their welding position, characterized by the fact that the circumferential locking means are formed by cam-shaped sections (19) of flanging members (13, 13') and by the fact that a cam section (19) is configured so that it is in clamped position between the ends of the two circumferentially adjacent radial rows (R) of conductive segments to be welded by rotating the flanging member.

2. The arrangement according to claim 1, characterized in that the flanging members (13, 13') move between a neutral position outside the chignon (3) and an active position between the conductive segment pairs (9a, 9b; 9c, 9d) of said two circumferentially adjacent radial rows (R).

3. The arrangement according to claim 2, characterized in that the cam section (19) has an oval transversal section with, in the direction of its large axis, a thickness (d1) that is nearly equal to the distance between said two circumferentially adjacent rows (R), between which it may engage, while the thickness in the perpendicular direction of the small axis is less than the thickness (d1).

4. The arrangement according to claim 3, characterized in that the circumferential locking came has at least two teeth (15, 16) which project from the cam surface in the direction of the circumferential locking thickness (d1) and has a spacing (e) that ensures, during the rotation

of the cam in its circumferential locking position, the clamped fit between the two teeth (15, 16) of a pair of conductive segment ends to be welded.

5. The arrangement according to claim 4, for a winding that has, in each radial row, two pairs (9a, 9b; 9c, 9d) of segment ends to be welded, with an interval (25) between the two pairs, characterized by the fact that the cam-shaped section (19) has three teeth (15, 16, 17) separated from each other by the aforementioned distance (e) for the clamped insertion between them of a pair of ends to be welded; the central tooth (16) fits into the interval (25) formed between the two pairs of ends.

6. The arrangement according to claim 5, characterized in that the front surfaces in the direction of rotation of the teeth (15, 16, 17) are chamfered to allow the conductive segment ends to engage between the teeth.

7. The arrangement according to claim 1, characterized in that the radial locking means have two members (31, 32) for maintaining between them, in the radial direction, the pairs of conductive segment ends to be welded.

8. The arrangement according to claim 7 for a winding with two pairs of conductive segment ends to be welded in a radial row (R), characterized by the fact that the radial flanging means also have a slip ring (27) designed to fit in the interval (25) formed between the two end pairs (9A, 9B ; 9C, 9D) of the rows (R) to ensure radial locking in cooperation with the aforementioned rings (31, 32).

9. The arrangement according to claim 8, characterized in that the part of the central slip ring (27), which is intended to fit into the interval (25) between the two pairs of conductive segment ends to be welded in the rows (R) has a tapered profile.

10. The arrangement according to one of the claims 7 or 8, characterized in that the central slip ring has a tapered portion, and that the cam section (19) has a centering groove (37) intended to receive the front part of the tapered section (29) of the central slip ring (27).

11. The arrangement according to claim 1, characterized in that it includes a device to expel slag from the welding operation outside the stator by blowing air jets (J) beneath the welds.

12. The arrangement according to claim 11, characterized in that the blowing device has a suction slot (40) with air jets loaded with the slag that has been removed.

13. The arrangement according to claim 1, characterized in that the welding device is the laser beam type.